

METHODS AND COMPOSITIONS FOR RAPID PROTEIN AND PEPTIDE EXTRACTION AND ISOLATION USING A LYSIS MATRIX

ABSTRACT OF THE DISCLOSURE

The present invention relates generally to compositions, methods and kits for use in extracting and isolating protein or peptide molecules. More specifically, the invention relates to such compositions, methods and kits that are useful in the isolation of protein or peptide molecules from cells (e.g., bacterial cells, animal cells, fungal cells, viruses, yeast cells or plant cells) via lysis and one or more additional isolation procedures, such as one or more filtration and/or chromatography procedures. In particular, the invention relates to compositions, methods and kits wherein protein or peptide molecules are isolated using an integrated lysis/filtration matrix, which may comprise one or more supports (e.g., polyolefin, scintered polyethylene, nitrocellulose, polypropylene, polycarbonate, cellulose acetate, silica, and the like). The compositions, methods and kits of the invention are suitable for isolating a variety of forms of protein or peptide molecules from cells. The compositions, methods and kits of the invention are particularly well-suited for rapid isolation of recombinant protein or peptide molecules expressed in bacterial cells, either as soluble protein, or as an inclusion body. The invention is particularly useful in high throughput applications, allowing quick isolation and/or analysis of proteins and/or peptides from numerous sources.